

AMENDMENTS TO THE CLAIMS

The following is a complete listing of revised claims with a status identifier in parenthesis.

LISTING OF CLAIMS

1. (Previously Presented) A digital measuring head in a measuring apparatus which measures a work by making a contact element abut to the work, the digital measuring head comprising:

an arm supported rotatably around a support point arranged on a base;

a finger having the contact element at a tip end and mounted to a tip end portion of the arm; and

a scale and a read head, one of which is provided at a rear end portion of the arm and the other of which is arranged on the base, wherein

displacement of the contact element which contacts with the work is measured with the scale and the read head based on at least one of refraction and reflection of light by the scale.

2. (Canceled)

3. (Previously Presented) The digital measuring head of claim 1, wherein the readhead further includes,

an emitter adapted to emit light, and

a receiver adapted to receive at least one of reflected and refracted light.

4. (Previously Presented) The digital measuring head of claim 1, wherein the scale reflects or refracts light emitted by the readhead.

5. (Previously Presented) The digital measuring head of claim 1, further comprising
a pressurizing member, and
a damper, wherein
the pressurizing member is adapted to keep the contact element in continuous contact with the work and the damper is adapted to reduce unwanted oscillations of the arm.

6. (Previously Presented) A digital measuring apparatus comprising:
a control unit;
an analog to digital converter;
an arm rotatably supported around a support point arranged on a base;
a finger, including a contact element mounted to an end portion of the arm; and
a scale and a read head, at least one of which is provided at a rear end portion of the arm and the other of which is arranged on the base; wherein

displacement of the contact element which contacts with a work is measured with the scale and the read head based on at least one of refraction and reflection of light by the scale.

7. (Canceled)

8. (Previously Presented) The digital measuring apparatus of claim 6, wherein the readhead further includes,

an emitter adapted to emit light, and

a receiver adapted to receive at least one of reflected and refracted light.

9. (Currently Amended) The digital measuring head of claim [[7]] 6, wherein the scale reflects or refracts light emitted by the readhead.

10. (Previously Presented) The digital measuring head of claim 6, further comprising

a pressurizing member, and

a damper, wherein

the pressurizing member is adapted to keep the contact element in continuous contact with the work and the damper is adapted to damp the jump of the contact element.

11. (Previously Presented) The digital measuring head of claim 9,
wherein the damper is a dash pot type damper

12-20. (Canceled)